Throughout the economic history of California, every single surge in the economy came about as a direct result of a research discovery and then the application of that advancement into the economy. Whether it was the railroads, the oil industry, or agriculture in the Central Valley, every industry has benefited from research and its application.

## June 21, 2007

Thank you very much. It's a great pleasure to be back on this campus. During the 16 years I was in the legislature I had the joy of representing Stockton and this campus; so it's good to be back. The University of the Pacific has really been an outstanding asset to this entire region, and certainly to Stockton. The campus looks great, and it's wonderful that this particular conference is taking place here.

I was going to talk about venture capital issues. But as I was standing in the back of the room, I was fortunate enough to listen to what was going on with the panel and it occurred to me that I would probably end up repeating a lot of what was being said. Instead, I'm here to tell you that I am from government and we're here to help.

I have been involved in public policy and in the public life for the last 33 years. But I am also a rancher and farmer, and what I am going to talk about now is the principles of ranching or farming. In farming, in order to have a good crop you need have to have the right ingredients. You need a fertile seed bed, you need to provide the fertilizer, you need to provide the water, and you need to monitor the growth of that particular crop.

The economy is very similar. If you are going to grow the economy, you need to have the

correct inputs. How do you create those things that provide for the economic growth? Venture capitalism is just one of the ways. There's a lot of money floating around out there and that's an incredibly important piece. But the other pieces are equally important. That's where I would really like to focus.

When I was Chairman of the Joint Science and Technology Committee, we were going around trying to figure out science research's role in improving the economy and what we needed to do to promote that role. It wasn't a very difficult study because California's incredible economic growth, which led the state to become the seventh-largest economy in the world, was and is today largely based on the implementation and development of advances in research.

My family came here in the 1860s to mine for gold. When they arrived, the gold had been cleaned out. Most of the rivers had been turned upside down and most of the gold had been extracted. However, new technologies and improvements made deep mining and hard rock mining possible.

Throughout the economic history of California, every single surge in the economy came about as a direct result of a research discovery and then the application of that advancement into the economy. Whether it was the railroads, the oil industry, or agriculture in the Central Valley, every industry has benefited from research and its application.

Where does research come from? In large part it comes from the great universities of California that conduct research in areas such as biotech, electronics and so forth. But where does that basic research get funded? It is, in fact, through the government, the collection of taxes, and the application of that tax revenue into the research. It is fundamental. So yes, I'm from the government and we're here to help you.

We're not going to see this economy continue to grow unless we invest in research. We need to invest in our universities, such as UC Merced and UC Davis. Research is fundamental. It is the principle foundation investment.

Besides research, a second pillar is infrastructure. If the California economy is going to be competitive in the 21st century, we must invest in and develop a strong infrastructure. Is there anybody here from the venture capital community or any other business community that is

going to finance the basic infrastructure of California? Our highways, as well as the water channels allowing ships to come into the port of Stockton, were all publicly financed. The great water systems of the state, even those that were based on cooperatives like the Turlock and Merced irrigation districts, were government operations. The economy depends on public infrastructure for any growth to occur. It is a community effort and a fundamental investment.

Fortunately, the State of California is taking a major step forward. Governor Schwarzenegger is right on track. The legislature and the voters of California are right on track. We are now engaged in a major investment in infrastructure; more than \$40 billion in spending is planned. Unfortunately, this is only a quarter of what we need to support the growing economy of California. Here in the Central Valley for example, we know that we face incredibly important challenges.

Our transportation system of highways, rails, air travel and so forth is becoming more congested. There has been a 24 percent increase in the population of the Central Valley over the last decade, and that growth is going to continue. As the population increases, Highway 99 and Interstate 5 will be as congested as any other urban freeway in Southern California or the San Francisco Bay Area. Fortunately, we have additional space to grow, so I suppose we could build eight lanes in each direction. But that would cause other problems. It would create more pollution and terrible air quality. Already, the Central Valley has the worst air quality in this state, contributing to the highest asthma rate, and is ranked among the worst 10 in the nation. So it's obvious that we're not going to fix our system this by traditional infrastructure development and of more and larger highways.

Here in California we have an important question before us today. Are we going to develop a future transportation system for the state of California? And specifically for the Central Valley? It took 10 years for the people in the Bay Area to decide to build the Golden Gate Bridge and they decided to fund it at the height of the Great Depression. Now we have an opportunity for something just as grand, and even more useful - High Speed Rail. In 1990, Assemblyman Jimmy Costa and I introduced legislation to establish the High Speed rail program in the state of California. High Speed Rail will eliminate over 10 billion pounds of CO2 a year compared to what we would use if dependent upon automobile and truck transportation between Northern and Southern California. We would also save over five billion barrels of oil. These are important things for us to consider. These are investments every bit as important as what the venture capitalists will do here.

Associated with that challenge is the issue of climate change. Climate change is real folks, it is very real. I studied this when I was back at the United States Department of the Interior in

preparation for the Kyoto Conference. Five Deputy Secretaries, the National Oceanic and Atmospheric Administration, NASA and a couple of other federal agencies were asked to prepare the American agenda. We calculated what would happen if there was a one degree rise in temperature, and the results were bad. We knew that New Orleans would flood. We knew that the Pacific Ocean would rise 6 inches.

We now know that temperature increases will exceed that one degree significantly in the not so distant future, so we're no longer talking about a 6-inch rise in the Pacific Ocean. We're now talking about a minimum of one foot within the next 20 years. The snow in the Sierra Nevada Mountains will be 30-70 percent less than it is today and there will be more floods. The Delta that is so critical to the Central Valley, that is so critical to California, isn't going to work as it does today. We are going to have to redesign the entire California water system. An investment in the Central Valley won't be worth much if we don't build a new infrastructure system to adapt to the reality of climate change. Now, I'm from government and we have got to work together on this issue.

To create the fertile bed upon which the economy will grow, we must also strive for the best educated work force in the world. There's no way that any of your companies are going to be able to compete internationally and grow with global competition unless we have the best educated workers in the world. In this regard, we are way off the power curve. We have got to fix this. It is a fundamental investment for the continued success of the California economy. Our outstanding universities turn out some great graduates. But even with this, we know today that we cannot import highly skilled workers, and that there are not enough workers graduating from our universities to keep the California economy growing. That's a fact. We're going to be short 87,000 higher education teachers in the next six years. You already heard about the shortage of nurses earlier in today's program. We have been unwilling to invest in the educational programs to provide us the very nurses that so many of us in the Baby Boom generation are going to need.

That's just the scenario for nurses and teachers. An estimated 50,000 to 60,000 jobs for truck drivers, welders, plumbers, carpenters, and similar skilled positions, will be unfilled because we cannot today find those people. We're talking about \$40 billion worth of infrastructure needed in our state, and we don't even have the men and women to operate the equipment to build this infrastructure. We're going to have to invest in career technical education, bringing it back into the high schools, as well as our community colleges. The California Partnership for the San Joaquin Valley discussed this issue in detail three years ago. And what did we do? We put it on the shelf and ignored the fundamental investment that we must make in our workforce to be able to address many of the other issues that are before us.

International relations is the other topic we talked about during the 1980s. During the middle of this decade, we said that the world was going to increasingly become an international marketplace. So what did we do? We ignored the importance of language training in our schools. How do you expect to operate in the international environment if we don't reach out to the international community, with knowledge of languages, with education, and with understanding?

Fortunately, California is extraordinarily lucky. We have the people of the world living with us in California. Many of our residents are current immigrants. Many of them are first generation immigrants, and they know the languages of their parents. Unfortunately, they also know the prejudices in our communities. The truth of the matter is that we're not a white community. If we are going to succeed, we cannot be. We have to be the world, because we are a part of the larger world, and that world is where the market is. Fortunately, in California, more than any other place in the world, we have the most valuable asset of all - a diverse population of people from around the world. Use that resource. Invest in that resource. Educate those people, maintain their languages, and maintain their cultural identity, and they'll flourish.

Unfortunately, many graduates from other nations who receive a PhD while staying in California cannot work in America after they graduate because they cannot get an H1B Visa. Now, what kind of stupidity is that? Where are they going to go? They're going to go home, back to China, Pakistan, India, and other countries. And they are going to be employed overseas by American companies that will use their expertise to develop new patented technologies in those countries. That means the associated economic growth will be happening there, not here in California. These are public policies, these are challenges that we in California and in the nation have to meet, and we are not doing it in any way that is sensible.

The other topic that you have been talking about here is manufacturing. Back in the 80s, we thought of manufacturing mostly in terms of producing trucks and other assembled items rather than high-tech industry products. We really didn't understand then about the incredible types of manufacturing that go on now and the application of that intelligence into our economy.

Whether it is a computer system or a software system or a biotech pharmaceutical product, when you create a new product, capitalists will find the margin of profit. Over time, that product will become a commodity and that business will seek the lowest-cost production location in world. Now if we really want to be the lowest-cost production place in the world, we can achieve that. But I don't think that's a particularly good strategy.

Our strategy is different. Use the research, use the development, create the new product, and make that product here. Eventually, the production will go offshore, with businesses seeking the lowest wage rate in the world. But by that time, that product will be replaced by a newer product that has a high margin. Now that's an economic strategy that we can and we must employ.

The final point is this: we have to be willing to change. Whatever we did yesterday may very well not work tomorrow, and the willingness to change has to be part of the mentality of California. My great-grandfather had this mentality when he came out to California and went into hard rock mining because there was no gold left in the stream bed.

What we did yesterday isn't going to work tomorrow. We have to change our cropping practices, our farming practices. We may have to plant trees instead of growing crops, and eventually our trees will come out and we'll go back to growing crops. I made a decision last year regarding a pear orchard and a corn field that I have out in Walnut Grove. Looking toward the future, I decided that " I've got to change. " At the time corn was less than two dollars a bushel and I can't afford that. I would make very little money. So now I'm going to turn the field into a pasture and I'm going to raise cows. And just in time for corn to go over four dollars a bushel. So the other principle to remember is always buy high and sell low. It's probably better that I stick to politics and forget about corn and cows, but that's part of my life.

I hope you've received the message of today's conference. The private entrepreneurial sector needs to be supported. Fortunately, there are tens of billions of dollars that have gone into venture capital and have been increasing opportunities. It's a very good thing. Tax policy and public policy provide that potential for capital to flow. We cannot survive nor thrive without that kind of financial support coming from the private sector. Nor can we thrive and survive well without the other elements of public policy. So when I came in here and said, "I'm from the government and I'm here to help", and you laughed, I hoped that you wouldn't be laughing by the time I leave. I want you to seriously consider the reality that investments are in fact supported by a foundation of public investment, infrastructure, education and development. By government providing the policies to encourage growth in the manufacturing base and free the system so that it can change over time.

Now, the rest of the story is that our failure rate in government may be equal to the failure rate in the venture capital market. Maybe it is less, maybe it is more. We don't always succeed. Our public policies are not always on target, and in fact, are often late in changing. Our public policies may be at times counterproductive to the task at hand. We must be aware of the importance of public policies and engaging people like you in this room in the policy discussions. We have been blessed with a great foundation with which to build a business here

in America for over two hundred years. It's called democracy. Ignoring the role of the public sector will guarantee failure. Engaging both government and the private sector will help us to succeed. I think you've got a very good conference going here. I want to congratulate all of you who have been involved. I am very glad to have been able to join you and bring about another investment opportunity for you. Thank you very much.